

What is claimed is:

1. An electric motor comprising:

a motor main body that includes a rotatable shaft, which is rotated upon energization of the motor main body;

a speed reducing unit that is connected to the motor main body and includes:

a speed reducing mechanism that reduces rotational speed of the rotatable shaft; and

a gear housing that receives the speed reducing mechanism; and

a circuit board that is held in the gear housing and has a circuit, which controls rotation of the rotatable shaft of the motor main body, wherein:

the gear housing includes a circuit board receiving portion, which opens toward the motor main body and receives the circuit board;

the motor main body further includes a brush holder, which supports a plurality of power supply brushes and includes a motor-side connector to be connected with an external connector, wherein the motor-side connector is integrated into the brush holder;

the circuit board is installed to the brush holder in a direction perpendicular to an axial direction of the rotatable shaft to electrically connect between the motor-side connector and the power supply brushes; and

the circuit board is received in the circuit board receiving portion when the motor main body and the speed reducing

unit are assembled together.

2. The motor according to claim 1, wherein a plane of the circuit board is parallel to the axial direction of the rotatable shaft.

3. The motor according to claim 1, further comprising an output shaft, which is connected to the speed reducing mechanism to output rotational force from the motor, wherein a plane of the circuit board is perpendicular to an axial direction of the output shaft.

4. The motor according to claim 1, wherein:

the motor-side connector includes a plurality of terminals;

the brush holder further includes a plurality of brush power supply terminals; and

the circuit board further includes:

a plurality of brush-side connection terminals, which are respectively connected to the brush power supply terminals in the direction perpendicular to the rotational axis of the rotatable shaft; and

a plurality of connector-side connection terminals, which are respectively connected to the terminals of the motor-side connector in the direction perpendicular to the axial direction of the rotatable shaft.

5. The motor according to claim 4, wherein one of each brush power supply terminal and each brush-side connection terminal is formed as a male terminal, and the other one of each brush power supply terminal and each brush-side connection terminal is formed as a female terminal that receives the male terminal therein.

6. An electric motor comprising:

a motor main body that includes a rotatable shaft, which is rotated upon energization of the motor main body;

a speed reducing unit that is connected to the motor main body and includes:

a speed reducing mechanism that reduces rotational speed of the rotatable shaft; and

a gear housing that receives the speed reducing mechanism; and

a circuit board that is held in the gear housing and has a circuit, which controls rotation of the rotatable shaft of the motor main body, wherein:

the gear housing includes a circuit board receiving portion, which opens toward the motor main body and receives the circuit board;

the motor main body further includes a brush holder, which supports a plurality of power supply brushes and includes a connector case, wherein the connector case is integrated into the brush holder;

the circuit board includes a connector main body, which

cooperates with the connector case of the brush holder to form a motor-side connector to be connected with an external connector;

the circuit board is installed to the brush holder in a direction perpendicular to an axial direction of the rotatable shaft to electrically connect between the motor-side connector and the power supply brushes;

the connector main body is inserted into the connector case in the direction perpendicular to the axial direction of the rotatable shaft to form the motor-side connector; and

the circuit board is received in the circuit board receiving portion when the motor main body and the speed reducing unit are assembled together.

7. The motor according to claim 6, wherein a plane of the circuit board is parallel to the axial direction of the rotatable shaft.

8. The motor according to claim 6, further comprising an output shaft, which is connected to the speed reducing mechanism to output rotational force from the motor, wherein a plane of the circuit board is perpendicular to an axial direction of the output shaft.

9. The motor according to claim 6, wherein the connector main body includes a plurality of terminals to be connected with a plurality of terminals of the external connector.